NOTES.

AT a meeting on Monday, May 19, the council of the Royal Society of Arts passed the following resolution:—"On the occasion of the fiftieth award of the Albert medal of the Royal Society of Arts, the council of the society desire to offer the medal to H.M. King George V., for nine years president, and now patron of the society, in respectful recognition of his Majesty's untiring efforts to make himself personally acquainted with the social and economic condition of the various parts of his dominions, and to promote the progress of arts, manufactures, and commerce in the United Kingdom and throughout the British Empire." The Albert medal was established in 1862 as a memorial of H.R.H. the Prince Consort, who had been president of the society for eighteen years. It is awarded annually for "distinguished merit in promoting arts, manufactures, or commerce." In 1887 it was awarded to Queen Victoria on the occasion of her jubilee, and in 1901 to King Edward VII., when, on his accession to the throne, he relinquished the presidency of the Society of Arts, which he had held for thirty-eight years.

MR. EDWIN TATE has just made a donation of 10,000*l.* to the Imperial Cancer Research Fund, for the endowment of the research.

MR. H. H. LAW has been appointed chief engineering inspector to the Local Government Board, in succession to Mr. G. W. Willcocks, C.B., retired.

THE KING has appointed Commander E. R. G. R. Evans, R.N., a Companion of the Order of the Bath (C.B.), in recognition of his services with the British Antarctic Expedition, 1910–12.

PROF. BATESON'S postponed lectures on the heredity of sex and some cognate problems will be delivered at the Royal Institution on Monday, June 2. and Wednesday, June 4, at three o'clock.

THE Berlin correspondent of *The Times* announces that Prof. H. Weber, professor of mathematics at Strassburg University since 1894, died on May 17 at seventy-one years of age.

WE learn with regret that Dr. Lester F. Ward, professor of sociology at Brown University, Providence, R.I., and formerly palæontologist of the U.S. Geological Survey, died in Washington on April 18, in his seventy-second year.

THE fifty-eighth general meeting of the Institution of Mining Engineers will be held on Thursday, June 5, at 11 a.m., in the rooms of the Geological Society, Burlington House, Piccadilly, London, W. The institution dinner will be held at the Waldorf Hotel on the evening of the same day.

WE learn from *Science* that a tablet in honour of Dr. S. P. Langley was unveiled in the Smithsonian Institution on May 6. Addresses were delivered by Dr. Alexander Graham Bell and Dr. J. A. Brashear. At the same time Langley medals were awarded to M. Gustave Eiffel and Mr. Glenn H. Curtiss. Later in the day the Aëro Club of Washington arranged an aviation display in the grounds of the Army War College in honour of Dr. Langley.

THE Paris correspondent of *The Times* announces the death of M. Alfred de Foville, perpetual secretary of the Académie des Sciences Morales et Politiques. M. de Foville, who was in his seventy-second year, was one of the most eminent political economists and statisticians of his day. From 1877 to 1893 he was chief of the Department of Statistics and of Legislation in the Ministry of Finance, and for a time he concurrently occupied the chair of industrial economy and of statistics at the Conservatoire des Arts et Métiers.

AN influential international committee has been formed to endeavour to establish a uniform notation in the theories of potential and elasticity. The committee has already sent out a circular to all those likely to be interested in the subject asking what are the notions and notations with respect to which uniformity is desirable. Discussions on the subject will be arranged to take place at the international congresses of mathematicians in 1916 and 1920, and it is hoped that the final report of the committee will be issued in 1921.

THE series of British land and fresh-water shells in the British Museum (Natural History) has received an important addition in the shape of a large collection brought together by Mr. F. H. Sikes, of Burnham Abbey, Burnham, Bucks, who has presented it to the nation, on condition that it shall be exhibited in the public galleries. The collection includes specimens from the cabinets of Messrs. Cairns, Fitzgerald, Grateloup, and Rogers, and is reported to be of special value on account of the care with which the less common species and subspecies have been named. The collection has already been received at the museum.

A MESSAGE from the Paris correspondent of *The Times* states that the Congress of the Royal Institute of Public Health was opened on May 16 at the Sorbonne in the presence of a number of eminent French and English men of science. The Under-Secretary of State for the Interior, M. Paul Morel, welcomed the members of the congress to Paris on behalf of the Government. Prof. W. R. Smith said, in reply, that the holding of the congress in Paris was a further proof of the closeness of the relations existing between the country of Lister and the country of Pasteur. Speeches were also made by Prof. Landouzy, president of the French section of the congress, Sir Thomas Oliver, who is president of the industrial section, and the Lord Provost of Glasgow. At the close of the meeting Prof. Smith handed to Prof. Roux, director of the Pasteur Institute, the gold medal of the Royal Institute of Public Health.

AN impressive collection of photographs of scenes connected with Capt. Scott's ill-fated Antarctic expedition is reproduced in yesterday's *Daily Mirror*, May 21. The pictures include a striking view of the cairn, surmounted by a cross, erected over the tent where the bodies of Capt. Scott, Dr. Wilson, and Lieut. Bowers were found; photographs of the explorers on skis dragging their sleigh towards the south pole, and standing near Amundsen's tent, which they found upon arriving at their goal; the last photograph of the party of five taken at the pole; and the tent in which Capt. Scott and his two companions waited until the icy hand of death relieved their sufferings. When the search party found the tent, it was nearly buried in snow, and in a few months all trace of it would have disappeared. All the illustrations are remarkably fine, and they serve to show the nature of the region near the south pole, as well as to stimulate pride in human endeavour.

CAPT. J. K. DAVIS, commander of the *Aurora,* the vessel attached to Dr. Mawson's Australasian Antarctic Expedition, reports the results of his endeavours to relieve the two parties in January and February of this year. He had already visited the main party, and taken part in the search for Dr. Mawson himself and his two companions, Ninnis and Mertz, whose tragic loss has already been reported. Prevented by bad weather from taking off this party, Capt. Davis was forced to leave them in order to hurry to the relief of the other, under Mr. F. Wild, 1500 miles westward of Commonwealth Bay. These men were found all well, and were taken off just in time to escape the closing ice, though the ship did not escape very severe weather on the return to Hobart. Some anxiety must be felt for the main party: Dr. Mawson himself, by travelling alone for twenty-two days, bereft of his two companions, has undergone an experience scarcely less terrible than that of any of his predecessors in polar exploration, but the base is well equipped. The wireless telegraphic station on Macquarie Island maintains communication between the base and Australia, and is signalling daily weather reports, while among other scientific work, sufficient soundings for a section of the ocean bottom between Hobart and the Antarctic are mentioned by Capt. Davis. He himself is visiting England with the especial and laudable purpose of raising funds to aid the cost of the prolonged stay of the main party in the south polar region.

THE President of the Local Government Board has authorised the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease:—The causes of premature arterial degeneration, Dr. F. W. Andrewes; insects in relation to disease (Prof. Nuttall, F.R.S., on the life-cycle of the body louse and bug; Dr. Bernstein and Mr. Hesse on the *Empusa muscae* in flies); infantile diarrhœa, Mr. F. W. Twort and Dr. Edward Mellanby; the virus of poliomyelitis, Drs. Andrewes and M. H. Gordon; the character and life-history of certain filter-passing micro-organisms, Mr. F. W. Twort; respiratory exchange in man under varying conditions, Prof. Leonard Hill, F.R.S.; the biochemistry of syphilis, Mr. J. E. R. McDonagh; the possibilities of serological diagnosis of scarlet fever, Dr. L. Rajchman; the relation between the clinical symptoms and the bacteriology of the acute respiratory affections, Dr. D. M. Alexander.

A CABLEGRAM has been received at Bishop's Stortford from Bangalore, announcing the death, from snakebite, at the early age of thirty-seven, of Mr. Herbert Kelsall Slater, geologist to the Mysore Government. Mr. Slater was educated at Bishop's Stortford College, which he left in 1894. After spending the next seven years at Bangalore with his father, the Rev. T. E. Slater, he was sent in 1901 to the Royal School of Mines, where he studied geology under Prof. Judd. On the recommendation of Mr. Foote, he was appointed in 1902 geologist to the Mysore Government, for which he did much valuable work. The results of his work are given in the records of the Mysore Geological Department (see NATURE, vol. lxxviii., p. 470). He surveyed and mapped large districts, and among important ores which he found to be widely distributed are gold and manganese ores. He also discovered and described important felsite and porphyry dykes; and the palace of the Maharaja is built from stone discovered by him. He spent December to May each year in prospecting, and it was while camping on one of these expeditions in the district of Shimoga that he met with the accident that caused his death. Not long ago Mr. Slater spent about six months in a tour in Canada in order to gain additional light upon his sphere of work in India by the study in the field of great Archæan complex.

THE work of the British School of Archæology in Egypt this winter, under the personal direction of Prof. Flinders Petrie, has been attended with some interesting results. At the close of the last season's work a first dynasty cemetery had been partly excavated at Tarkhan, about forty miles south of Cairo, and this year the site has been systematically worked; eight hundred graves, grouped on each side of an axial road, have been carefully cleared and studied, and much pottery and strings of carnelian, garnet, and blue-glazed beads have been recovered. The damp of the valley in which the cemetery lies has prevented the removal of the bones, but these were all carefully measured, and some seventy of the skulls, preserved by solidifying with paraffin wax, will be brought to England for further study. The new material thus obtained will be a valuable supplement to the careful and exhaustive collections made by the American excavator, Prof. Reisner, mainly in Upper Egypt, and published, with Prof. Elliot Smith's collaboration, two or three years ago. Meanwhile the excavators interpret the new evidence as proving the existence at Tarkhan of the conquering tribe of the dynastic people of ancient Egypt, who had advanced northward from Abydos, subduing the Nile Valley, until Mena founded the new capital of United Egypt at Memphis. It is interesting to note that, according to the discoverers, the men of the dynastic race were an inch or two shorter than the indigenous population; and this supports the persistent native tradition that the conquerors owed their success to superiority in armament rather than in physical qualities. At Gerzeh, another site a few miles further south, some interesting finds were also made, dating from the twelfth and eighteenth dynasties, the most remarkable being a gold pectoral inlaid with coloured stones, like the celebrated Dahshur jewellery.

MR. E. W. DEMING gives, in *The American Museum Journal* for March, an interesting account of the scheme now being undertaken to prepare, on the walls of the museum, a series of panels illustrating the life of the American Indians. Each panel will tell the story of the life of a particular stock—their mode of living, customs, decoration of their lodges, life in the tipi, transportation, in short, all the minor details which will give colour and reality. The general control of the work rests with Mr. Deming, who has lived for some fifty years with various Indian tribes. He will utilise the material collected by Mr. Louis Akin, a skilled painter, who was received as a member by the Hopi tribe, and unfortunately died at Flagstaff, Arizona, in January last. His untimely death, at the age of forty-five, is a serious loss to American art and anthropology.

The National Geographic Magazine for March publishes an article by the late American Minister to Guatemala, Mr. W. F. Sands, on the prehistoric ruins of that country. This is the preface to an account by Mr. S. G. Morley, assistant director of the Quiriqua Expedition of 1912, of the excavations at this place, situated fifty-seven miles from the Caribbean Sea. It was one of the early centres of the Maya civilisation, which flourished in south Mexico, Guatemala, and north Honduras during the first fifteen centuries of the Christian era. The place was unknown since Hernando Cortez passed within a few miles of it in 1525. A series of temples has now been disinterred containing many interesting carvings and hieroglyphs, the interpretation of which is still, in a great measure, unknown. So far the excavations are merely tentative. But the School of American Archæology proposes to pursue the work, which cannot fail to throw much new light on the problems of Maya culture.

THE Palæolithic skull from Piltdown, Fletching, Sussex, just described in the Quart. Journ. Geol. Soc. by Dr. A. Smith Woodward as the type of a new genus and species (*Eoanthropus dawsoni*), has been placed on exhibition in a special case in the central hall of the Natural History Museum.

ACCORDING to the report for 1912, work at the Sarawak Museum has been somewhat interrupted by the absence on leave of the curator; it is hoped, however, that this will be more than compensated by the information acquired during his visit to Europe. A strenuous effort is being made to place on exhibition a mounted series of the local birds.

IN the May issue of *The Selborne Magazine* it is announced that the Selborne Society now possesses no fewer than ninety-five editions of Gilbert White's "Natural History of Selborne," and even this is believed not to exhaust the list. On another page Mr. Rashley Holt-White writes to express his belief that the print recently declared to be a portrait of the Selborne naturalist is not correctly identified.

THE recently published report of the advisory committee for the Tropical Diseases Research Fund for 1912 shows, as usual, great activity in research in the schools, universities, and laboratories at home and in the Colonies, supported by pecuniary contributions which can scarcely be considered creditable to a great Empire. The total revenue of the fund for 1912 was 3425*l.*; the expenditure was 3833*l.* 6*s.* 8*d.* The excess of expenditure over income was met by drawing on the accumulated balance of the fund, and it was necessary to warn the schools of tropical medicine that it would not be possible to repeat in 1913 grants on the same scale. Appended to the report of the committee are those of the professor of protozoology in the University of London, the Quick Laboratory, Cambridge, the London and Liverpool Schools of Tropical Medicine, and of seven Colonial laboratories. As usual, these reports describe many important investigations, especially in the transmission of parasites and the causation of disease, which it is to be hoped will find their way also into the ordinary channels of scientific publication, where they will be less likely to be overlooked.

IN *The New Phytologist* for February (vol. xii., No. 2), Mr. H. Takeda gives an interesting general account of the vegetation of Japan, which has also been issued as a reprint (Wesley and Son, London, price 1*s.*, post free). The author describes the geographical features and climate of Japan, laying special stress on the influence of the warm and cold currents which wash the shores of the long chain of islands composing the Japanese Empire, and exert a marked influence upon the vegatation, as well as on the great variety of climatic conditions which obtain owing to the fact that the islands extend over thirty degrees of latitude —the southernmost islands being subtropical, while the most northerly have a climate like that of Nova Scotia or Iceland, the harbours being blocked by drifting ice from November to April. He then describes the various plant formations occurring in the northern, middle, and southern regions, into which, for convenience, the country is divided from the phytogeographical point of view, with numerous examples illustrating the range from arctic through subarctic, cold temperate, warm temperate, and subtropical to tropical types of vegetation. The vertical zonation of the vegetation on the higher mountains is illustrated by a description of the plant communities seen on ascending Mount Fuji. The paper also contains a discussion of the origin and affinities of the Japanese flora, and short accounts of the cultivated crops and of the introduced and garden plants.

A PAPER recently presented to the Royal Geographical Society by Lieut. H. A. Edwards gave a very clear idea of the important character of the survey work of the commission on the northern boundary between Bolivia and Brazil, in 1911 and 1912. The work is to be continued, but already a considerable area, previously unmapped and practically unknown, has been covered between the sources of the Bahia and Rapirran rivers. In 1911 a primary station was established on the latter river, which was then followed and mapped up to its source, after which the British commissioners, without their Brazilian colleagues, crossed the watershed to the valleys of the Abuna and Xipamanu. In 1912 the boundary line following the River Acre was mapped from Cobija to Tacna, and a party crossed to the Bahia, and thence to the confluence of the Ina and Xipamanu, from which point the Riparran was again visited, and a junction effected with the starting point of the work of the preceding year. A general description of the country, with facts concerning its geology, climate, flora, and fauna, was furnished by Lieut. Edwards, and some idea as to the extreme difficulties attendant upon exploration, and particularly upon careful survey, in this region, was afforded by his account. Progress, whether along the rivers or through the forests, meets with continual opposition from nature in one form or another; insect pests attack the travellers and their animals, and food supplies are often far from easy to keep up.

The measurements made last year by Prof. McClelland and Mr. Kennedy of the number and mobility of the large ions present in the atmosphere cast some doubt on the generally accepted interpretation of the records of the various types of instruments intended to measure the ionisation in the atmosphere at any time. The number of small ions of mobility about 1·6 cm. per second in a field of 1 volt per cm. may be taken as 1500 per c.c. in normal circumstances, while the authors find that the air of Dublin has in it about ten times as many large ions of mobilities of the order of 1/3000 cm. per second. There is strong evidence that they consist of a nucleus, originally uncharged, which attracts to itself one of the small, more mobile ions. The nucleus itself probably consists of an invisible drop of water, which it is known may exist in air even when the air is unsaturated. Further investigation is, however, necessary before the absence of ions of intermediate sizes can be satisfactorily accounted for. The description of the methods of measurement adopted will be found in the December, 1912, number of the Proceedings of the Royal Irish Academy.

In No. 15 of the *Revue Scientifique* is published an address delivered by Prof. Victor Grignard on the occasion of the presentation to him at Stockholm of the Nobel prize. In this address he gives a brief summary of the different types of synthesis by means of magnesium, with which his name is associated, and which have led to extremely fruitful developments in the domain of organic chemistry. During the past ten years no fewer than seven hundred papers have appeared dealing with the "Grignard reaction," whilst in practice it has found important application in the commercial synthesis of such drugs as stovaïne and alypine, which have many advantages over cocaine, and of many compounds of importance in perfumery.

We have received from the Agricultural Experiment Stations of the Louisiana State University a copy of Technical Bulletin No. 135, which contains a report of investigations carried out by Dr. W. E. Cross and others on methods of analysis of sugar-cane products. The report includes a number of papers, of which the following are the most important:—The determination of dry substance by means of the refractometer; the application of dry basic lead acetate defecation to sugar-house analysis; a rapid method for the estimation of glucose in juices; a modification of the Clerget method of determining glucose in molasses; the effect of urea and betaine on the rate of inversion of cane-sugar by hydrochloric acid; and the direct estimation of cane-sugar in presence of reducing sugars. Useful tables are appended to the report.

In the current number of the *Comptes rendus* (May 13), Ph. Barbier and R. Locquin give a new method for stepping down the series of the fatty acids. Starting with the acid $R.CH_2.CO.OH$, they convert this into the methyl (or ethyl) ester, and treat this with two molecules of magnesium methyl iodide, forming the tertiary alcohol $R.CH_2.C(OH)(CH_3)_2$. This, or the hydrocarbon $R.CH=.C(CH_3)_2$ formed by dehydration, on oxidation with chromic acid, gives acetone and the acid $R.CO_2H$, the next lower homologue of $R.CH_2.CO_2H$. The ketone $R.CH_2.CO.CH_3$ may also be used as the starting point for the production of the same acid, $R.CO_2H$. The reaction is a general one, and can be applied with success to dibasic acids; thus β-methyladipic acid gives methyl-succinic acid.

A lecture on the economics of engineering, delivered by Major W. J. A. O'Meara, C.M.G., at Faraday House, on February 26, has reached us in the form of a reprint from *The Royal Engineering Journal* for April. It is an excellent thing that the application of the principles of economics to individual trades should be considered, and Major O'Meara has done well to choose that of engineering for his lecture, since it plays so important a part in the production of the national wealth. He confines himself largely to electrical engineering, and deals mainly with the efficiency of management and organisation. He also deals shortly with the question of markets, showing the special and peculiar conditions attaching to this branch of the industry, and just touches very briefly on one or two other points. The main question treated in his lecture is divided into three sections—organisation, management, and technical aspects—and each of them is considered in reference to the conditions which conduce to the maximum efficiency. The former, for instance, deals with the establishment of a "direct chain of command" among those responsible for the work, the proper choice of officers for the various departments, the proper subdivision of the work, to render possible among other things the easy ascertainment of the costs of each class of work. Technical aspects, again, include economy in materials, design, the operating of plant, and methods of execution, in connection with which the necessity of avoiding, so far as possible, the dismissal of skilled workmen is forcibly urged. Indeed, brief though it is, the paper is highly suggestive, and arouses the hope that in the future Major O'Meara will give us a full and detailed treatment on these lines of the whole engineering trade.

Some novel towing tests conducted at the experimental tank in the Navy Yard at Washington form the subject of an illustrated article in *The Engineer* for May 16. The questions to be investigated were whether existing piers in the Hudson River should be lengthened to meet the demands of bigger liners, and also to settle the problem of granting renewed permission for the continuance of two temporary extensions of 100 ft. each beyond the pierhead line approved by the Secretary of War in 1897. These questions involved the reproduction in the tank of both shore lines of the Hudson River throughout the berthing section of the big Transatlantic steamers, and the models towed represented those ships now in service as well as a yet unbuilt craft 1000 ft. long. Suction was investigated by means of floating models and submerged buoys. The movements of these during each run of the towed model were recorded by use of moving-picture cameras, so situated that every essential movement could be caught. An index finger moving over a dial on the towing carriage showed the position of the model at every instant. While the full results are not yet published, it may be noted that the Government authorities have again refused permission for the temporary pier extensions to be made permanent.

Under the title of "The Land of the Blue Poppy," the Cambridge University Press will shortly publish Mr. F. Kingdon Ward's record of his experiences and observations while engaged in plant-collecting in western China and south-eastern Tibet during the year 1911. The book is dedicated to the memory of the author's father, Prof. H. Marshall Ward.

Messrs. Witherby and Co. have been appointed European agents for *The Emu,* the organ of the Royal Australasian Ornithologists' Union, and copies of that publication can now be obtained at 326 High Holborn, London, W.C.

OUR ASTRONOMICAL COLUMN.

Comet Gale (1912*a*).—An ephemeris for Gale's comet (1912*a*) is given in the *Astronomische Nachrichten,* No. 4651, by Herr M. Ebell, of Kiel, but the object is very dim, being fainter than magnitude twelve. It was observed on April 26 in Uccle by G. van Biesbroeck, and in Bothkamp by Dr. H. H. Kritzinger, and, according to the former, the ephemeris was in error by −3s. and +1·5′. Dr. Kritzinger describes the comet as an elliptical nebula 1′ and 0·7′ diameter, the brightness of the nucleus being 12·8 mag., the total brightness amounting to 12·5 mag. In answer to a telegram sent to Algiers, Herr F. Gonnessiat reports that on May 2 the comet was on the extreme limit of visibility.

The ephemeris up to the end of this month is as follows:—

	α true h. m. s.	δ true °	Mag.
May 22	6 53 30	+45 44·5	—
24	6 55 59	45 27·7	12·6
26	6 58 26	45 11·2	—
28	7 0 53	44 55·1	—
30	7 3 18	44 39·3	—

The Spectra of Spiral Nebulæ and Globular Star Clusters.—Dr. E. A. Fath has been continuing his discussion of the spectra of spiral nebulæ and globular star clusters secured with spectroscopes attached to the 60-in. reflector of the Mount Wilson Observatory; his latest results appear in the April number of *The Astrophysical Journal* (vol. xxxvii., No. 3, p. 198). The spiral nebulæ here investigated are seven in number, the exposures ranging from 7h. 40m. to 38h. 14m., while the total exposures for each of the four clusters ranged from 13h. 5m. to 16h. 17m. In the case of the nebulæ they for the most part exhibit the spectra of solar type stars, but he refers to two, namely N.G.C. 1068 and 4736, as peculiar, giving evidence of "gaseous" radiation. Up to the present he has investigated altogether twelve globular clusters, and the result so far shows that as a whole the brighter stars of the globular clusters have spectra ranging only from the F- to the G-type. Dr. Fath hopes that as the clusters observed are nearly all readily reached in latitude 34° north, some southern observatory will undertake the investigation of those south of −20°, to find out whether they also exhibit this small range of spectral type so striking a feature of the northern clusters.

Reports on Indian Observatories.—Dr. G. T. Walker, the Director-General of Indian Observatories, has just forwarded his reports for 1912 on the observatories of Kodaikanal, Madras, Bombay, and Alibag, accompanied by the reports of the several directors. In the case of the first-named, he directs attention to the energies of Mr. Evershed, to the transfer of the Poona instruments to Kodaikanal, and to the appointment of Mr. Royds. He states that a serious effort is going to be made to teach the assistants to undertake the measuring of the numerous photographs, which up to the present has only been done by the gazetted officers. He hopes further to make the observatory an ordinary second-class instead of a first-class meteorological station in order to free the fourth assistant for solar work. The transit instrument at Madras in the beginning of 1910 suddenly changed its level, and the occurrence was repeated in 1911 and 1912. As this had never taken place before, it was thought that underground water currents had affected the earth neighbouring the concrete foundation. This is now going to be investigated, and in the meantime the Madras clock will be rated by wire from Kodaikanal. No special features are mentioned regarding the other two observatories, unless the reference to the absence of trouble from white ants at the Colaba Observatory be noted.

"L'Astronomie" for May.—The current number of the *Bulletin de la Société Astronomique de France* contains the address delivered by M. Camille Flammarion on the occasion of the twenty-seventh year of the existence of the French Astronomical Society. The subject of his discourse was confined to the progress of the society, and the success that the society has achieved is well known this side of the Channel. A very valuable feature in the journal is a series of reproductions of all the past presidents of the society. On the same occasion M. Puiseux summarised the advances made in solar studies during the past year, and this will be found useful to those not closely following the progress of solar physics. Other contents to which attention may be directed are "Les Photographies à poses variées," "Les Céphéides considérées comme Etoiles Doubles," "Comparaison d'un Chronomètre aux signaux rythmés," &c.

The Parallax of the Nebula G.C. 117=N.G.C. 221.—Dr. Gustaf Strömberg communicates to *Astronomische Nachrichten,* No. 4650, his results of the determination of the parallax of the nebula G.C. 117, or N.G.C. 221, which he secured at the Stockholm Observatory. This nebula lies in the region of the Andromeda nebula, like a satellite to it, and is much easier to measure than the nucleus of the large nebula. The plates which Dr. Strömberg measured were those that were used by Prof. Karl Bohlin for his determination of the parallax of the Andromeda nebula. In his measures Dr. Strömberg employed a comparison star in the neighbourhood of the nebula, the coordinates being Neb. (G.C. 117)−* : $\Delta\alpha = -11\cdot56$s., $\Delta\delta = -18\cdot3''$. The investigation embodied fifty determination of differences of R.A. and forty-six of differences of declination, and the parallax he secured was $+0\cdot073'' \pm 0\cdot055''$. Details of the research will be published later in the publications of the observatory.